

## TYPIFICATION IN DIRCA

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IN THE THYMELAEACEOUS GENUS *Dirca* L., which is restricted to Canada and the United States, two species, *D. palustris* L. and *D. occidentalis* Gray, are known. *Dirca palustris* has an extensive range in eastern North America; *D. occidentalis* is restricted to six counties in California. It is of interest that there has been no taxonomic confusion in the genus since it was described as a *Thymelaea* by Gronovius in 1743 (*Flora Virginica* 155), and there has been only one nomenclatural synonym for the genus during this period, which presents no problem, being based directly on *Dirca* L. (*Dofia* Adans. Fam. 2: 285. 1763). Although with this virtually unblemished history the question of typification has never been of critical importance, there are some interesting aspects concerning typification of the two species which seem worth discussing.

The type species of the genus, *Dirca palustris*, was described, validly, by Linnaeus in *Species Plantarum* (358. 1753) with the citation "palustris. 1. *Dirca* Gen. Nov. 1078.\*," the asterisk indicating that in the volume cited there was a good description. The citation refers to *Nova Plantarum Genera . . .* Leonhard Johan Chenon, 1751, one of a long series of dissertations written by Linnaeus but defended, as theses, by his students. In both the dissertation and the *Species Plantarum* the description of *Dirca palustris* is taken verbatim from Gronovius' *Flora Virginica* (155. 1743), and from this description alone it is impossible to tell whether or not Linnaeus had actually seen the plant described. In the dissertation, under *Dirca*, Linnaeus cited "fig. 7.," but in the two copies of it which I examined the figures were lacking. In his *Genera Plantarum* (ed. 4. 167. 1754) Linnaeus again used Gronovius' description for *Dirca*. In 1756, the portion of the Linnaean dissertation of 1751 concerning *Dirca* was republished (Linn. Amoen. Acad. ed. 1. 3: 12, 13). Here the description of Gronovius is repeated once more, but Linnaeus also provided an original diagnosis and an illustration of a flowering branchlet and inflorescence (presumably the same as "fig. 7." of the dissertation). The illustration of the flowering branchlet agrees reasonably well with specimen no. 501.1 in the herbarium of the Linnean Society of London. The sheet apparently was seen by Linnaeus before 1753 and bears the handwritten notation "1. palustris." It is listed by B. D. Jackson (Index to the Linnean Herbarium in Suppl. Proc. Linn. Soc. London, 124th Sess., 26, 69. 1912) as being present in the herbarium of Linnaeus in 1753. Specimen number 501.1 must, therefore, be considered the holotype rather than a specimen Gronovius might have had, in spite of the number of times Linnaeus chose to repeat the Gronovian description. According to



the citation of Gronovius of 1743 the plants he examined for *Flora Virginica* were collected by John Clayton. In the edition of *Flora Virginica* of 1762 (p. 60) the citation "Clayt. n. 858." is appended to the description of *Dirca palustris*. In addition, Linnaeus (see Jackson *ibid.* 11) is quoted as saying, "When I assisted Dr. Gronovius in examining plants from Virginia I got Duplicates of most of them." The holotype specimen in the Linnean Herbarium (LINN) is very likely of Clayton's collecting and given by Gronovius to Linnaeus.

The first report of *Dirca* in California was published by John Torrey in 1857 (Botany, in Reports of Exploration and Surveys 4: 133). This reference is to *D. palustris* L. in which Torrey says, "Mountains near Oakland, California; April 4, (with flowers and young fruit.) We have never before received this plant from any part of the United States west of the Mississippi." *Dirca palustris* is now well known as far west as eastern Oklahoma but Torrey's reference can only be to the plant later described by Asa Gray (Proc. Am. Acad. 8: 631. 1873) as *D. occidentalis*. The collection of April 4, 1854, from Oakland, was made by Dr. J. M. Bigelow and has been cited by some as the holotype (McMinn, H. E. *Manual of California Shrubs* p. 365. 1951) which it clearly is not. Gray, following his description of *D. occidentalis*, and remarking on the Bigelow collection says, "there are only vestiges of the former [the flowers and young fruit] in my specimens. If they had been in good condition, Dr. Torrey would have noticed the characters of the species, which are now manifest." The additional specimen making the characters "manifest" is "Dr. A. Kellogg & W. G. W. Harford n. 895 of distribution." This collection was made March 13, 1869, in the Oakland hills. Both the Bigelow and Kellogg & Harford collections are mounted on a single sheet now on deposit in the Gray Herbarium (GH). On this sheet are three branchlets with the left-hand (immature fruit) and center specimens (sterile ? and insect damaged) comprising the Bigelow collection while the right-hand specimen (flowering) is the Kellogg & Harford gathering. The Bigelow label contains only the name "Dirca" while the Kellogg & Harford label bears, in Gray's handwriting, "Dirca occidentalis n. sp. A. G." Therefore, there is little question that the latter, and later, collection should be considered the holotype of *D. occidentalis*.